i-MapNJ

Environmental Interactive Mapping Application

Tutorial for Advanced Users

October 16, 2002

Introduction

For a number of years NJDEP has been developing spatial data layers for use in its Geographic Information System (GIS). GIS is a technology that integrates software tools with spatial data, enabling the relationships of mapped features to be analyzed. These spatial data layers contain mapped features of some environmental concern. For NJDEP, analysis of the spatial data in GIS leads to better environmental decision-making.

NJDEP has also recently been building a department-wide environmental database called the New Jersey Environmental Management System (NJEMS). NJEMS is the department's database used for tracking agency activities, permitting and enforcement data.

i-MapNJ is NJDEP's first interactive mapping application, and is designed to serve the department's NJEMS and GIS data over the web using ESRI's ArcIMS (Internet Map Server) Internet mapping technology. The application provides a map view frame, a popup window for tabular information related to map features, a toolbar for basic GIS analysis, several predefined queries, and the capability to produce a basic map layout that can be sent to the user's printer. Desktop GIS software does not need to be installed on the user's PC to run the application, all that is needed is a web browser. The application will run best using a later version of Microsoft Internet Explorer, but will still work on machines running earlier versions as long as the version is above 4.0. It does run on Netscape browsers, but not as reliably.

Using i-MapNJ, users can perform basic NJEMS site queries, view and analyze the results along with selected GIS mapped data layers on a map, and print the map. An NJEMS site is an entity that is regulated by, or of some interest to, one or more programs within NJDEP. The application can search for individual locations (NJEMS sites, address locations, state plane coordinates) or multiple NJEMS sites based on some user entered selection criteria. The NJEMS sites selection criteria allow selections based on NJDEP agency activity, program interest, and discharged parameter. The NJEMS site selections are restricted to an area of interest designated by the user. The areas include sites within a radial range from a currently selected location, or sites within a municipality, county, or watershed management area.

The purpose of the advanced tutorial is to provide users, already with some familiarity of the i-MapNJ application, a reference guide with examples of more advanced searches and functions. It is assumed the user has already worked with the i-MapNJ application, and is familiar with its user interface. There is an introductory tutorial, *i-MapNJ Tutorial for New Users*, which users may work through if they are new to i-MapNJ. Elements of the application to be covered in this tutorial include:

- **Finding an Individual Location by X-Y Coordinates and NJEMS IDs**
- **Finding NJEMS Sites by Specified Criteria**
- **Printing a Map**
- **Help Information**

The tutorial is divided into sections where particular topics are explained, which are followed by exercise demonstrating the functionality. Included also are screen shots to provide additional clarity.

CHAPTER 1

Finding Individual Locations

The two pre-defined searches in the i-MapNJ application include the *Find an individual location* search and the *Find sites by specified criteria* search. These searches are launched by clicking the corresponding buttons found to the right of the map view frame. The discussion in this chapter will be on the *Find an individual location* search, focusing on the X-Y Coordinate and the NJEMS ID searches. Users can also search for an address - the address search is covered in the introductory tutorial. This search is designed to retrieve or locate a single location for a New Jersey State Plane coordinate, or an NJEMS site based on an ID.

The following exercises will help demonstrate the capabilities and variations of this search.

Exercise 1.1 - X-Y Coordinate Search (New Jersey State Plane Coordinate)

A user may want to search for a location by entering an X-Y coordinate pair in the New Jersey State Plane Coordinate System (NJSPCS), in US Survey Feet units, referenced to the NAD 83 horizontal geodetic datum. The application will display the X-Y coordinate centered in the map viewer.

1. *Click on the **Find an individual location** button.*

2. *Select X-Y Coordinates.*

3. *Enter a valid New Jersey State Plane coordinate value in the textboxes. You may enter any valid NJSPC value, or choose from the list below:*

X-Coordinate	Y-Coordinate	
419223	*499091*	*Mercer Co. Waterfront Park*
581785	*677018*	*Newark Airport*
447702	*906087*	*Highest Elevation in NJ – 1,803 ft!*
315151	*405526*	*NJ State Aquarium*
389140	*532925*	*Washington's Crossing*

The application should zoom the map view frame to the coordinate's location and mark the location with an orange star. Note that i-MapNJ does not at this time accommodate the entry of coordinates in other systems such as geographic coordinates (latitude/longitude) or UTM coordinates.

Exercise 1.2 - NJEMS Site and Program Interest IDs Search (NJEMS ID)

NJEMS sites are entities that are either permitted, regulated, or are of some interest to a NJDEP program. Users of i-MapNJ may attempt to search for an NJEMS site using IDs associated with the site. This search may not be very useful to the general public, as they will not generally know the IDs associated with a site. However they may have noted site IDs from a previous i-MapNJ session and may want to revisit these site locations from time to time. If a user wants to search for a specific NJEMS site, they may enter either the NJEMS Site ID, or Program Interest ID (Preferred ID Number) in the NJEMS ID textbox.

If the Site ID box is checked, all NJEMS site records will be checked for a match on Site ID. If the Program Interest ID box is checked, only NJEMS site records belonging to the designated Program Interest will be searched.

If the ID is found, the application zooms the map view frame to the site's location and marks the location with an orange star. Information related to the site is displayed in the tabular data window. If the ID is not found, the application will indicate that the ID does not exist and that no sites were found within NJEMS. Below are some sample IDs that can be used in the following exercises.

Example NJEMS IDs:

Site	Site ID	Program Type	Program Interest ID
Merck	14721	Air	40009
Dupont Custom Cleaners	12461	Site Remediation	008703
Bristol Myers Squibb	5341	Air	*15770*
Princeton Plasma Physics	*15769*	Wastewater Discharge	*47029*
Union Carbide	*1687*	*Site Remediation*	*002162*

1. *Click on the **Find an individual location** button.*

2. *Select NJEMS ID*

3. *Enter a Site ID in the NJEMS ID textbox and select the Site ID button.*

4. *Click **View Map***

The application should zoom the map view frame to the site's location and mark the location with an orange star. Information related to the site is displayed in the tabular data window.

5. *Repeat the above exercise, this time selecting Program Interest ID and selecting the corresponding Program Type (Air, Site Remediation, Wastewater Discharge) from the dropdown menu.*

Chapter 2

Finding NJEMS Sites By Specified Criteria

Using the *Find sites by specified criteria* search allows the user to retrieve multiple NJEMS sites that meet selection criteria specific to the type of search. These multi-site searches allow retrievals based on **agency activity, discharged parameter, and program interest**. A user may limit the retrieval spatially in two ways. The retrieval can be limited to sites within a specific distance (radial search) of an NJEMS site (or other individual location - address, or X-Y coordinate), or limited to sites which fall within a specific municipality, county or watershed management area. The user needs to establish an origin point prior to attempting a radial search.

2.1 Establishing A Point of Origin for a Radial Search

The origin point for a radial search can be any resulting location established by a previously run *Find an individual location* search. A point of origin can also be established anywhere on the map using the ***Set Origin*** 

tool from the Map Tools toolbar. The user can simply mouse click on any location on the map. With an established origin point and a radius distance (in miles) entered by the user, the application can determine which NJEMS sites meeting specific selection criteria fall within the circular buffer area defined.

2.2 Designating a County, Municipality, or Watershed Management Area for a Spatial Search

Alternatively a user may instead designate a specific area found in one of three GIS layers to spatially limit the NJEMS sites retrieved. The GIS layers from which specific polygons can be selected include New Jersey counties, municipalities, and watershed management areas. By designating Atlantic County as the spatial search polygon, the retrieval will return only the sites satisfying the search criteria that fall within Atlantic County.

2.3 Finding Sites by Specified Criteria Exercises

The i-MapNJ application provides three NJEMS multiple site search types, which are presented to the user after clicking on the *Find sites by specific criteria* link to the right of the map view frame. A radial, county, municipality, or watershed spatial search can be run using any of the three.

Find Sites By Specific Criteria - Search Types

Agency Activity	Finds sites that are associated with NJDEP permitting activities.
Discharged Parameter	Finds sites that are regulated for the emission or discharge of particular parameters or compounds.
Program Interest	Finds sites that are regulated by or otherwise of interest to a particular NJDEP program.

The following exercises demonstrate a number of the multiple site searches. The exercises also demonstrate the radial search and GIS polygon options for limiting the searches.

Exercise 2.3.1 - Agency Activity Search (using radial range)

1. *Establish a point of origin either by executing a* ***Find an individual location*** *search or by designating any point on the map using the* ***Set Origin***  *tool from the Map Tools toolbar and mouse clicking on the point.*

2. *Click on the* ***Find Sites by selected criteria*** *button to the right of the map view frame. This will open the search wizard window.*

3. *Select* ***Agency Activity****. This will bring you to the Agency Activity Search window. Here are some sample values that may be entered:*

   Program Type: **Air**
   Program Interest Status: **Active**
   Spatial Search Type: **Radial Range**

4. *Click on* ***Next Criteria*** *button. You can now fill in additional search criteria. Enter the following:*

   Range (miles): **10**
   Activity Class: **General Permit**
   Time Period From: **January 1, 2000**
   Time Period To: **December 31, 2001**

5. *Click on the* ***View Map*** *button.*

The application now begins to retrieve NJEMS site locations that match the entered selection criteria. After the NJEMS data is retrieved, the application

renders a map in the map view frame and displays the tabular data related to the retrieved NJEMS sites in the tabular data window. The actual number of NJEMS sites that match will depend on the selection criteria entered and the particular location you have set as your point of origin. It is not unusual for the application to respond that no features (sites) were found since the retrieval may not find a match within the buffer defined by the entered radius (range) and origin point. If you find yourself in this situation, you may (for the purpose of this exercise) either select a different origin point and/or try a larger search radius.

6. *Click on the checkboxes in the data layers list next to Counties and Municipalities and then click on the **refresh map** button at the top of the list.*

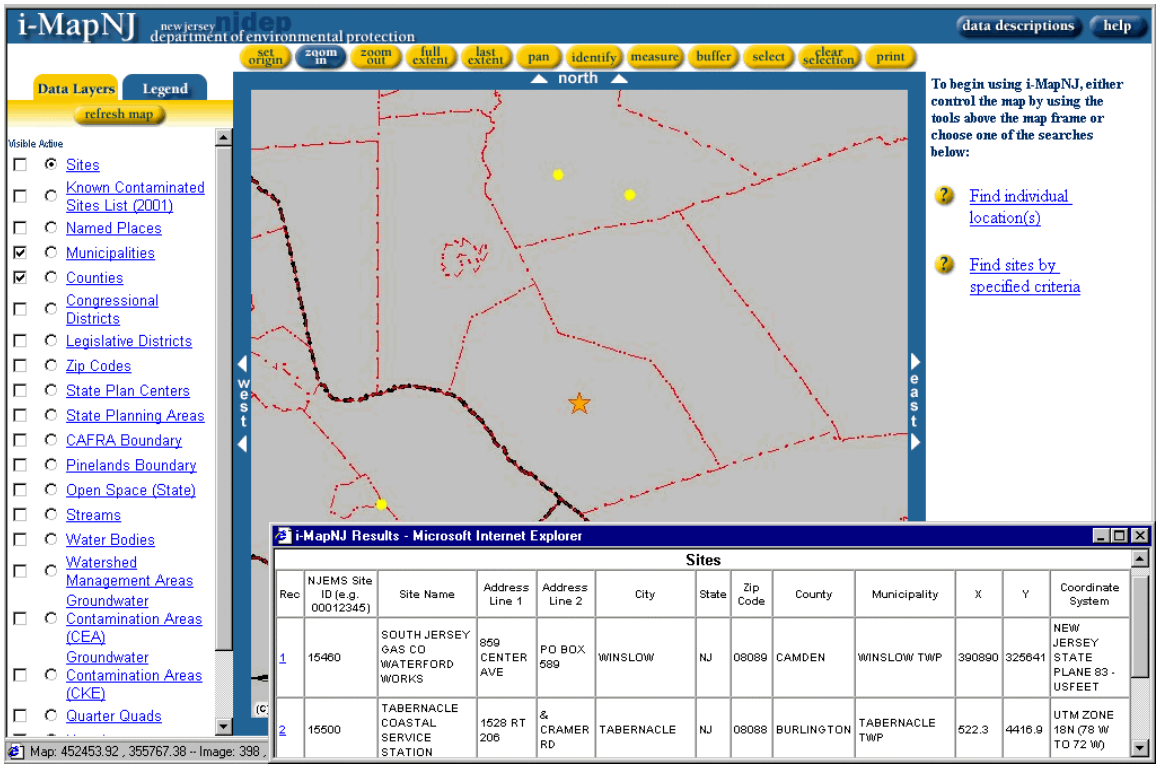

Figure 2-1. Example of results from Exercise 2.3.1

GIS Analysis - Now that you have performed your agency activity search, we can use Map Tools to perform some basic GIS analysis.

7. *Click on the **Measure**  **tool** on the Map Tools toolbar. A measure (mileage) frame appears at the top of the map viewer frame.*

8. *Click once on your point of origin.*

9. *Move the cursor to the nearest site, the distance will be displayed in the measure frame.*

10. *Click on the **Identify** 

tool on the Map Tools toolbar.*

11. *Now mouse click on this closest site. The tabular data window will refresh with NJEMS information for this closest site.*

12. *When finished viewing, close the i-MapNJ Results window before starting the next exercise.*

Exercise 2.3.2 - Agency Activity Search (using watershed management area polygon)

For this search an established origin point is not necessary. Our focus is on a specific geographic area, which in this case will be a watershed management area.

1. *Click on the* ***Find sites by specified criteria*** *button to the right of the map view. This will open the search wizard window.*

2. *Select* ***Agency Activity****.*

3. *This will bring you to the Agency Activity Search window. For this exercise we will select the following:*

Program Type:	**Wastewater Discharge**
Program Interest Status:	**Active**
Spatial Search Type:	**Watershed**

4. *Click on* ***Next Criteria*** *button.* ***You*** *can now fill in additional search criteria. Enter the following:*

Watershed:	**North and South Branch Raritan**
Activity Class:	**Discharge to Surface Water**
Time Period From:	**July 1, 1999**
Time Period To:	**June 30, 2001**

5. *Click on the* ***View Map*** *button. The application will now search for NJEMS sites that match the entered criteria. The sites that match will appear in the map view, and information related to the sites will appear in the tabular data window.*

6. *Click on the checkboxes in the data layers list next to Streams and Water Bodies and then click on the* ***refresh map*** *button at the top of the list.*

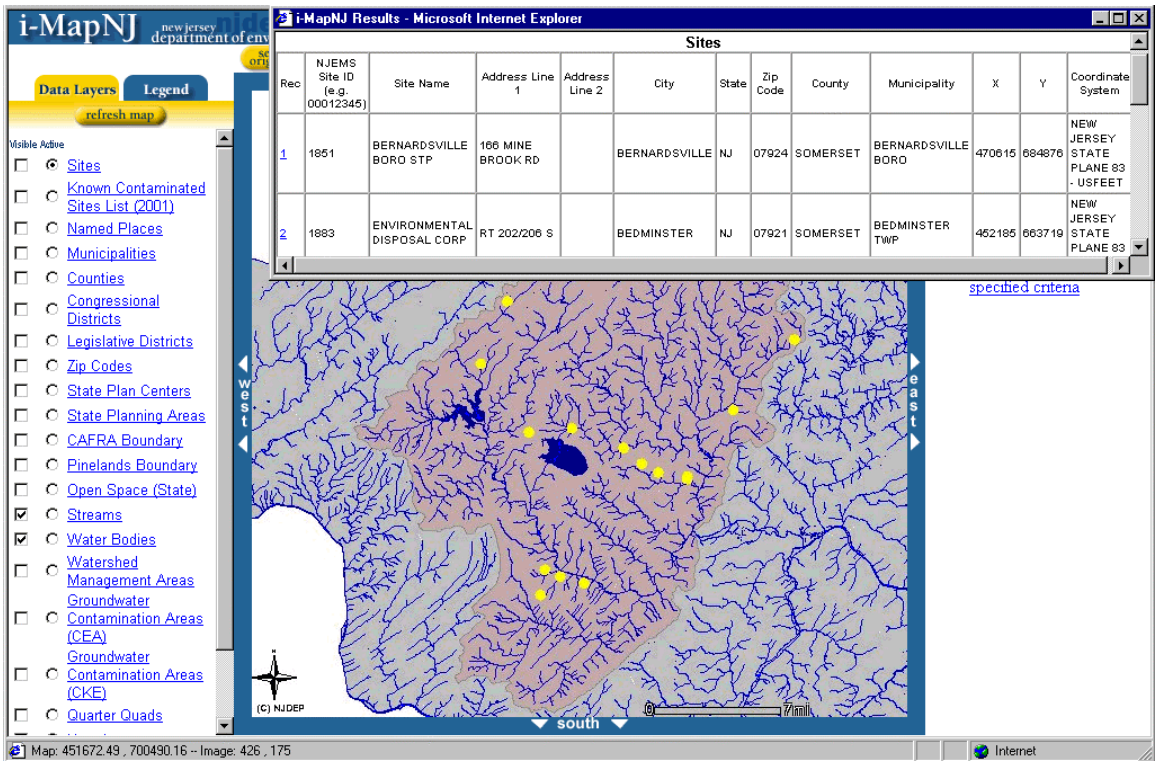

Figure 2-2. Example of results from Exercise 2.3.2

GIS Analysis - Pick any two sites that are close together, and zoom to their combined extent. To do this…

7. *Click on the **Zoom In**  **tool**. Using the mouse, click and drag to define a rectangle that contains both sites. The application will now zoom to the extent of the rectangle that was defined.*

8. *In the data layers list, click on the checkbox next to **Land Use 1995** to make it available for display. Also click on the checkbox for the **Aerial Photos 1995/97** to uncheck the checkbox. You may have to scroll down the data layers list, as these layers are closer to the bottom.*

9. *In order to see the results of the changes we have just made, we have to click on the **refresh map** button at the top of the data layers list to update the map view frame. The map should refresh, this time showing land use data.*

10. *What are all of these colored polygons? Click on the **Legend tab** to the left of the map view frame to see the legend displaying the symbology and shade patterns for layers that are currently visible. What land use types are the most prominent in the areas near the sites?*

11. *To get more information about a particular land use polygon, we need to first make the land use layer the "active" layer. Click on the **Data Layers** tab and*

in the data layers list click on the radio button to next to ***Land Use 1995*** *to make it the active layer.*

12. *Click on the* ***Identify***  ***tool*** *from the Map Tools toolbar.*

Now when you mouse-click inside of a land use polygon, the application will provide more descriptive attribute data associated with the land use polygon in the tabular data window. Notice that there is data relating to each polygon's land use classification in 1995 and 1986. If you are lucky you might be able to find a polygon whose classification changed between 1986 and 1995. If you are interested in seeing the land use polygons that did change, go to the layers list and check the box to turn off Land Use 1995 layer, and check the box to turn on Land Use Change 1986-1995 layer. Make the Land Use Change 1986-1995 layer active by clicking on its radio button, then click on the refresh map button. The changed polygons should appear shaded yellow. You may use the identify tool to see how the land use changed.

13. *When finished viewing, close the i-MapNJ Results window before starting the next exercise.*

Exercise 2.3.3 - Discharged Parameter Search (using Radial Range)

1. *Establish a point of origin either by executing a* ***Find an individual location*** *search <u>or</u> by designating any point on the map using the* ***Set Origin***  *tool from the Map Tools toolbar and mouse clicking on the point.*

2. *Click on the* ***Find Sites by selected criteria*** *button to the right of the map view frame. This will open the search wizard window.*

3. *Select* ***Discharged Parameter****. This will bring you to the Discharged Parameter Search window. For this exercise we will select the following:*

   Program Type: **Air**
   Program Interest Status: **Active**
   Spatial Search Type: **Radial** Range

4. *Click on the Next Criteria button. You can now fill in additional search criteria. Enter the following:*

   Range (miles): **5**
   Regulated Parameter: **VOC(total)**
   Time Period From: **1999**
   Time Period To: **2001**

5. *Click on the* ***View Map*** *button.*

The application now begins to retrieve NJEMS site locations that match the entered selection criteria. After the NJEMS data is retrieved, the application renders a map in the map view frame and displays the tabular data related to the retrieved NJEMS sites in the tabular data window. The actual number of NJEMS sites that match will depend on the selection criteria entered and the particular location you have set as your point of origin. It is not unusual for the application to respond that no features (sites) were found since the retrieval may not find a match within the buffer defined by the entered radius (range) and origin point. If you find yourself in this situation, you may (for the purpose of this exercise) either select a different origin point and/or try a larger search radius.

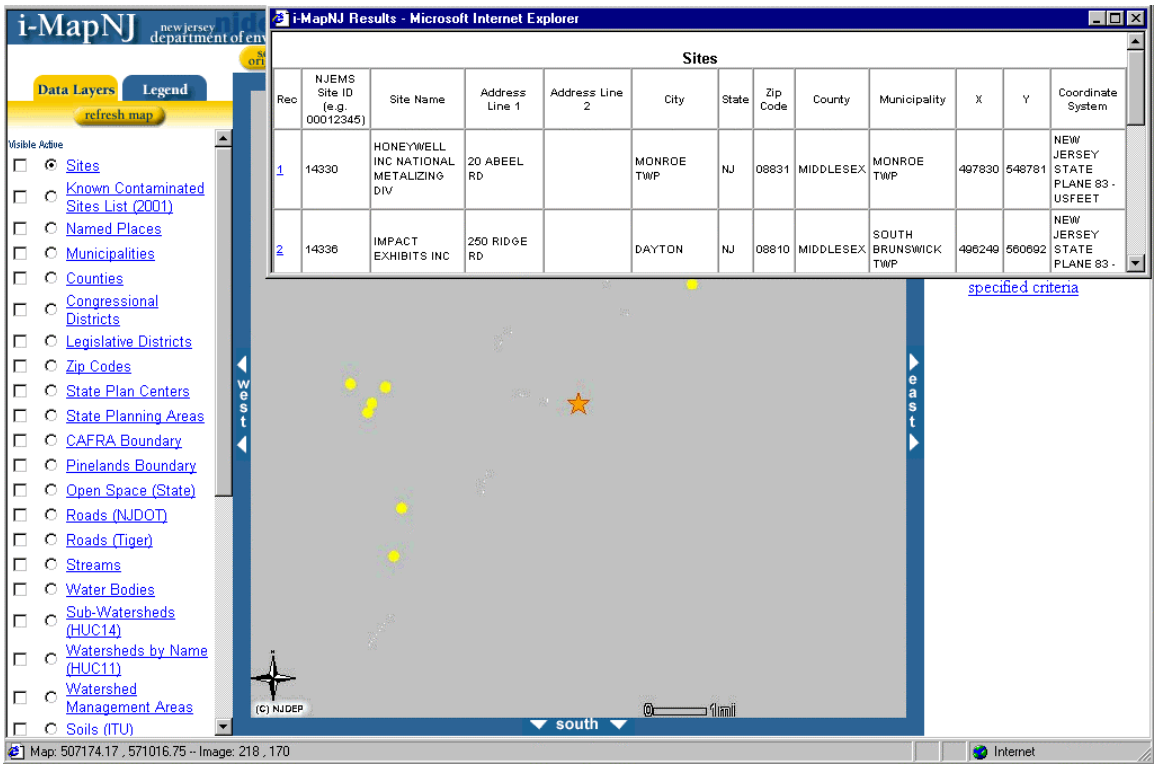

Figure 2-3. Example of results from Exercise 2.3.3

GIS Analysis – Now let's see which municipalities are within 1 mile of this selected group of sites.

6. *Click on the **Buffer**  **tool** in the Map Tools toolbar.* In this version of the i-MapNJ application, the buffer tool can only be used to buffer around selected features from layers made up of points (Sites, Known Contaminated Sites List, and Named Places). Users are not able to buffer features from layers made up of line and polygon features.

7. *The tabular data window is temporarily replaced by a Select Buffer Distance window, where the buffering parameters are entered. Click on the "Highlight features from … " dropdown menu, and replace No Layer with Municipalities. We want to "Highlight features from NJ Municipalities within a distance of 1*

mile around the selected features of Sites." Click on the Display Attributes (maximum 50 records) checkbox.

8. *Click on the **Create Buffer** button.*

i-MapNJ will determine which NJ municipality polygons are within 1 mile of our selected set of VOC (total) regulated sites. When the map is rendered, these polygons are shaded, and the descriptive attribute data associated with the municipality polygons (up to a maximum of 50 records) is listed in the tabular data window.

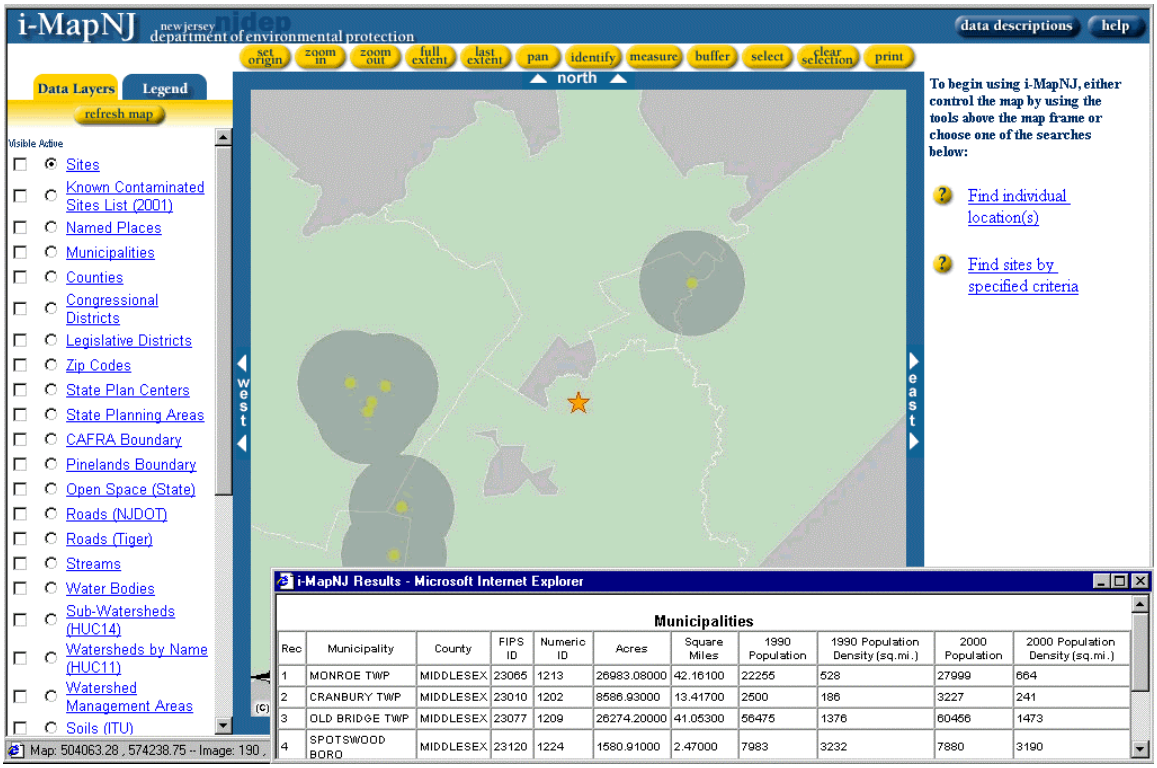

Figure 2-4. Example of results from Exercise 2.3.1 with GIS analysis

9. *When finished viewing, close the i-MapNJ Results window before starting the next exercise.*

Exercise 2.3.4 - Discharged Parameter Search (using watershed management area polygon)

For this search an established origin point is not necessary. Our focus is on a specific geographic area, which in this case will be a watershed management area.

1. *Click on the **Find sites by specified criteria** button to the right of the map view. This will open the search wizard window.*

2. *Select **Discharged Parameter**.*

3. *This will bring you to the Discharged Parameter window. For this exercise we will select the following:*

Program Type:	**Wastewater Discharge**
Program Interest Status:	**Active**
Spatial Search Type:	**Watershed**

4. *Click on the **Next Criteria** button. You can now fill in additional search criteria. Enter the following:*

Watershed:	**Assiscunk, Crosswicks, and Doctors**
Regulated Parameter:	**Solids, Total Dissolved**
Time Period From:	**January 1, 2001**
Time Period To:	**September 30, 2001**

5. *Click on the **View Map** button.*

i-MapNJ will now search for NJEMS sites that match the entered criteria. The sites that match will appear in the map view frame, and information related to the sites will appear in the tabular data window.

See where these wastewater discharge sites fall in relation to streams and waterbodies.

6. *Click on the checkboxes in the data layers list next to Streams and Waterbodies and then click on the **refresh map** button at the top of the list.*

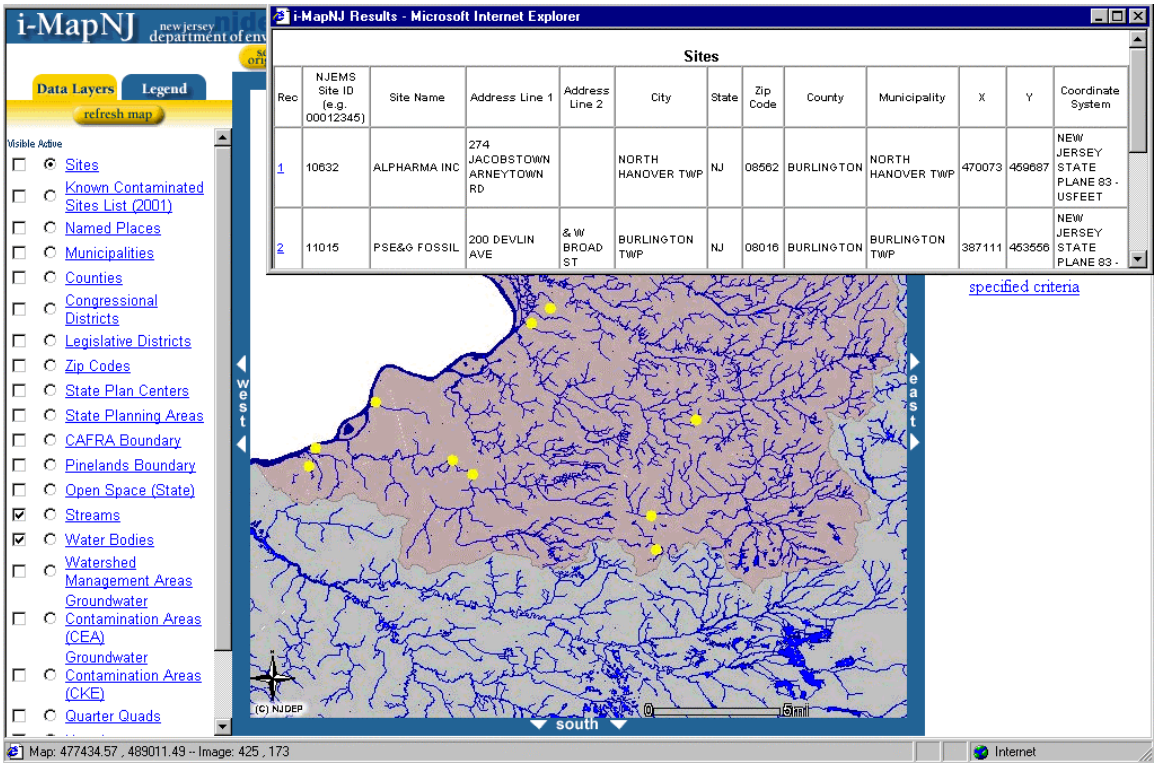

Figure 2-5. Example of results from Exercise 2.3.4

7. *When finished viewing, close the i-MapNJ Results window before starting the next exercise.*

Exercise 2.3.5 - Program Interest Search (using Radial Range)

1. *Establish a point of origin either by executing a* ***Find an individual location*** *search or by designating any point on the map using the* ***Set Origin*** set origin *tool from the Map Tools toolbar and mouse clicking on the point.*

2. *Click on the* ***Find sites by specified criteria*** *button on the application's main toolbar. This will open the search wizard window.*

3. *Select* ***Program Interest****. This will bring you to the Program Interest Search window. For this exercise we will select the following:*

   Program Type: **Site Remediation**
   Program Interest Status: **Active**
   Spatial Search Type: **Radial Range**

4. *Click on* ***Next Criteria*** *button. You can now fill in the range distance the application will search. Enter the following:*

   Range (miles): **5**

5. *Click on the **View Map** button.*

The application now begins to retrieve NJEMS site locations that match the entered selection criteria. After the NJEMS data is retrieved, the application renders a map in the map view frame and displays the tabular data related to the retrieved NJEMS sites in the tabular data window. The actual number of NJEMS sites that match will depend on the selection criteria entered and the particular location you have set as your point of origin. It is not unusual for the application to respond that no features (sites) were found since the retrieval may not find a match within the buffer defined by the entered radius (range) and origin point. If you find yourself in this situation, you may (for the purpose of this exercise) either select a different origin point and/or try a larger search radius.

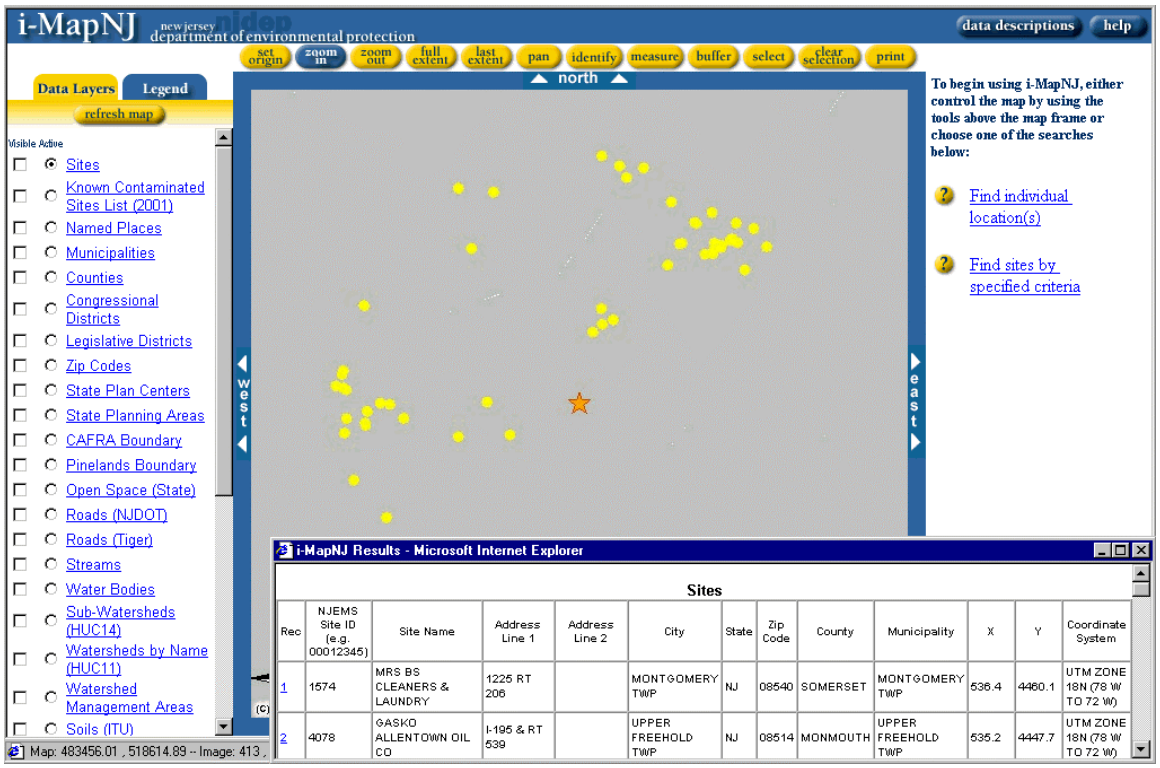

Figure 2-6. Example of results from Exercise 2.3.5

GIS Challenge - Turn on the Municipalities GIS layer to see where these site remediation sites fall.

6. *Click on the checkboxes for the Municipalities and Counties layers in the data layers list and then click on the **refresh map** button at the top of the list.*

7. *Make the Municipalities data layer the active data layer by clicking on its radio button in the data layers list.*

8. *Click on the **Identify** **tool** from the Map Tools toolbar.*

Now when you mouse-click inside of a municipality polygon, the application will provide attribute data associated with the municipality in the tabular data window including the municipality's name, county to which it belongs, size in acres and square miles, and population data.

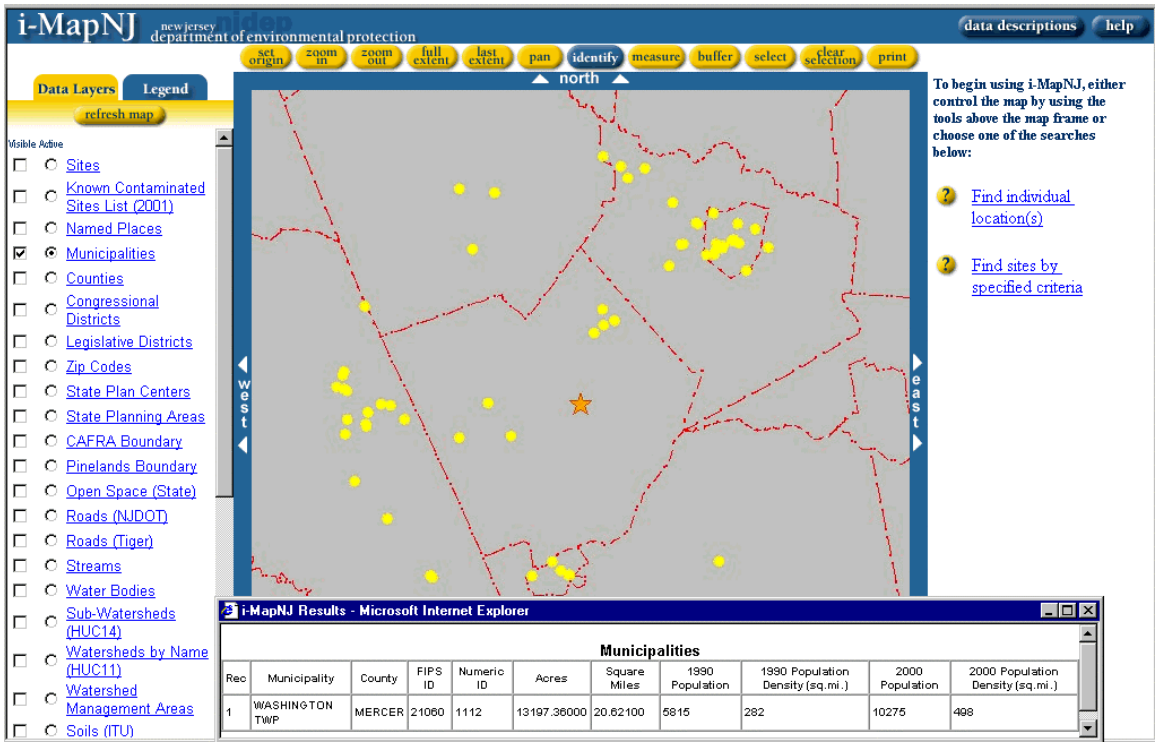

Figure 2-7. Example of results from Exercise 2.3.5

9. *When finished viewing, close the i-MapNJ Results window before starting the next exercise.*

Exercise 2.3.6 - Program Interest Search (using municipality polygon)

For this search an established origin point is not necessary. Our focus is on a specific geographic area, which in this case will be a watershed management area.

1. *Click on the **Find sites by specified criteria** button on the application's main toolbar. This will open the search wizard window.*

2. *Select **Program Interest**.*

3. *This will bring you to the Program Interest Search window. For this exercise we will select the following:*

Program Type: **Site Remediation**
Program Interest Status: **Active**
Spatial Search Type: **Municipality**

4. *Click on **Next Criteria** button. You can now select the municipality. The municipality dropdown list includes the county to which municipality belongs. Select the following:*

   Municipality: **Paterson City, Passaic (County)**

5. Click on the ***View Map*** button.

The application will now search for NJEMS sites that match the entered criteria. The sites that match will appear in the map view, and information related to the sites will appear in the tabular data window.

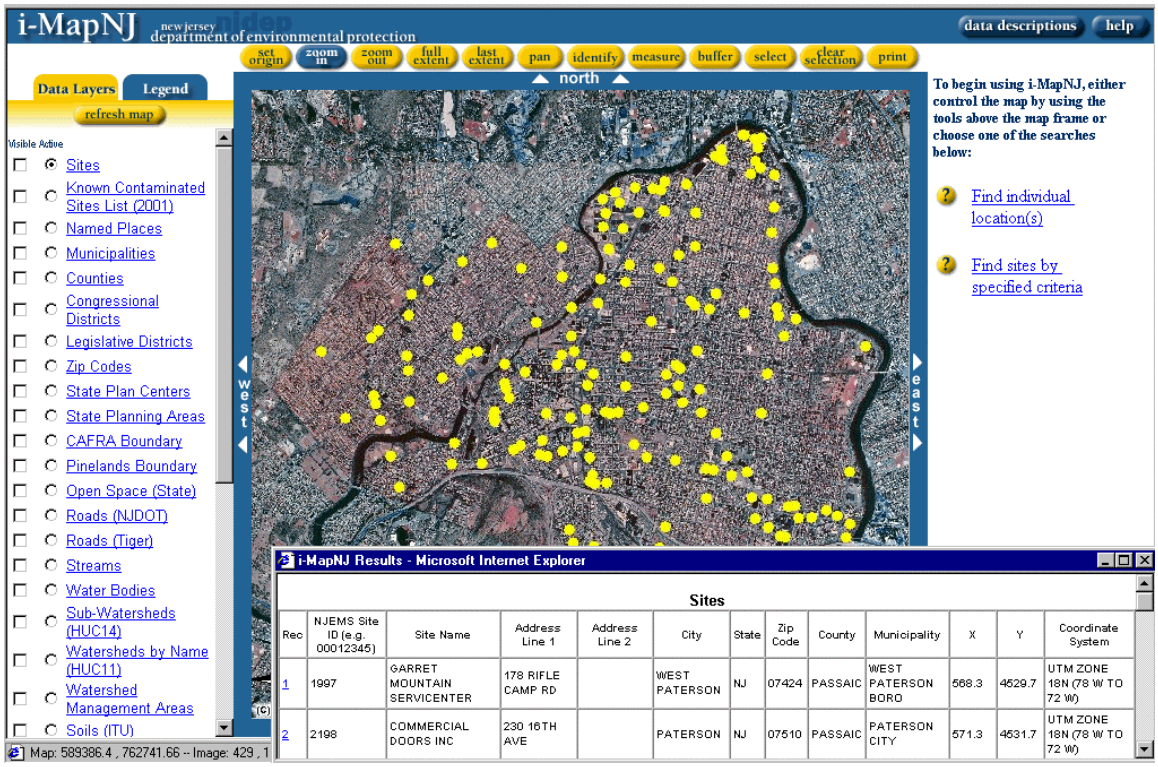

Figure 2-8. Example of results from Exercise 2.3.6

6. *When finished viewing, close the i-MapNJ Results window before starting a new exercise.*

Chapter 3
Printing a Map

Any map displayed in the i-MapNJ map view can be sent to a user's printer. Users should consider whether adding (or removing) GIS data layers would improve the map's clarity before printing. If the map's scale is too small and the Aerial Photos 1995/97 data is not available for display, consider adding roads and hydrography (Streams and Water Bodies) to provide reference data. There are also considerations if you are sending the map to a color or black and white printer. Map data layers with different colored symbols will stand out when the map is printed using a color printer, but may not be easily distinguished when printed in black and white.

Exercise 4 - Print Map

1. *If desired, add data layers, making **Roads** (NJDOT or Tiger**)** and/or **Streams** and **Water Bodies** visible by clicking on the checkboxes next to their names in the Data Layers list.*

   Different layers may be used if more appropriate. Note that if the map viewer is displaying too large an area (small scale), the Roads, Streams and Water Bodies layers will not appear in the Data Layers list. If possible, the user may want to zoom to a larger scale.

2. *Click on the **refresh map** button at the top of the data layers list. The map will redraw with the added layers.*

When the user is satisfied with the map's appearance they can follow these print steps.

3. *Click on the* 

button on the toolbar. A print map window opens.

4. *Replace the default 'New Jersey Map' title with something that indicates what the map is about. The title could include wording describing the search used to produce the map result, if appropriate. Then click on the **Create Print Page** button.*

5. *The print page is produced in a separate browser window, and it includes the map, the map legend, map scale bar, and map title and north arrow. To print this page, simply click on the web browser window's printer icon, or click on File - > Print from the browser's main menu bar.*

Chapter 4
Help Information

To access help information and Frequently Asked Questions (FAQs) click on the **Help** 

button from the main toolbar. This will open a separate browser window with links to help files and FAQs. Here are the FAQs as of 10/16/02.

Frequently Asked Questions

FREQUENTLY ASKED QUESTIONS	ANSWERS
What versions of web browsers work with i-MapNJ?	You are best off using later versions of Microsoft's Internet Explorer or Netscape's Communicator. Minimum versions are 4.0 and above. i-MapNJ performs more reliably in Internet Explorer and it is recommended that user view the application using this browser.
What happened to my aerial photo?	The aerial photographs (Aerial Photos 1995/97 layer) are scale dependent and do not appear until the scale is 1:30,000 or larger (i.e., 1:25,000).
Why does the application not always provide the same data layers in the data layers list?	The map data layers made available to the user are scale dependent. This means that as a user continues to zoom in closer on an area of interest, more map data layers are made available by the application. Roughly on third of the layers can be displayed when the application loads at start-up. Additional layers can be displayed when the scale is greater than 1:500,000, several more when greater than 1:200,000. The air photos and the well grid can be displayed when the scale is greater than 1:30,000.
Why can't I find the address I am interested in?	Achieving success when address matching an entered address is dependent on a few factors. If your address is in a more recently developed area, the roads layer that contains the address range information may not be current enough, preventing a successful match. There can also be address range coding errors in the roads layer. If this is the case try a different address, close by, that can get you at least close to your location of interest.
Why do some searches retrieve faster then others?	Searches that are retrieving more data take longer than searches that are retrieving less data. For example, searching for all sites that have an Air program interest in a county will take longer than it would to search for all sites that have an Air program interest within a municipality.
Why does the i-MapNJ application perform differently throughout the day?	The i- MapNJ application is a web application whose performance is subject to a number of factors including the user's connection to the Internet, and the amount of data that is being requested from the application's servers, and how many concurrent requests to those servers are being made by all of the users at a given time.

Why does my search retrieve five results but when I click on a point it returns six results?	After completing a search, the i-MapNJ Map View displays the resultant selected set. Nevertheless, other sites that did not match your criteria are still present (just not visible). So when you use the identify tool on a selected site, there may be other sites in close proximity that are being identified as well.
What is the difference between the radial range search option under *Find sites by specified criteria* and the function performed by the map tools buffer tool?	Though they seem to be similar functions there are major differences. The map tools buffer tool can be used to create buffer zones around features from any of the application's GIS data layers. You can also opt to highlight features from another data layer that are at least partially within the boundaries of the buffer areas that will be created. Please note that if you are zoomed to a small area and use the buffer tool, you might not see the entire extent of the buffer area - the application will not zoom out to show the entire extent. You will have to use the zoom out tool. The Find sites by specified criteria radial range option only works on the NJEMS sites layer, and generates a single circular search zone around an established origin point. This search zone, which one could think of as a buffer around an origin point, is not displayed on the map. Only the subset of NJEMS sites determined by the search to be within the search zone is displayed. The map view frame zooms to the extent of the search zone, allowing the user to see the subset of sites.
Can I change the symbols of layers or the order in which the overlay?	No. Unlike GIS desktop applications like ArcView, and ArcExplorer, you can not alter the colors and symbols nor alter the layer drawing order that are presently set in i-MapNJ.
Can I export the tabular data?	There are no easy exporting capabilities at this time. One can highlight, copy and paste in Excel, but this can be difficult. Especially when the tabular data consists of many records.
Can I print the tabular data?	Yes. The i-MapNJ Viewer is made of HTML frames. If you wish to print the tabular data results click your mouse on the table to activate the text frame. Then using the browser's print capabilities under the File menu select Print and make sure in the Printer confirmation window that the "Print Selected Frame" is selected.
Can I add a GIS data layer that I have stored locally on my computer to the i-MapNJ application?	No.
What happened to my tabular data?	The tabular data displays records for a selected result set. The results from a search is a selected set. The sites found using the select (by rectangle) tool is a selected results set. Identifying a point is a selected set. Each time you switch tools and select new data you lose your old selected set.
Why did my map retrieval fail?	Once you execute a search and map retrieval you must let it complete or you will disrupt the transfer of the map. For this reason, it is recommended that users not click on the map or initiate other viewer actions while the transfer is still running.

Why are some NJEMS sites not located where they should appear?	There are some site coordinate data errors within the over 100,000 site records in NJDEP's NJEMS database. The majority of the site locations have been determined through the use of global positioning system (GPS) technology, which is very accurate. Additional locations have been loaded into the NJEMS database from existing NJDEP program databases. Others have been determined through an address matching process.
Why does the TIGER roads data not match very well with the Aerial Photos 1995/97 layer?	The reason is that the TIGER roads data was compiled at a much smaller scale (1:100,000) compared to the air photo image data. You might notice that the TIGER roads data often lacks detail in areas, and this is again due mainly to the scale at which the data was compiled. The TIGER roads data does provide a benefit in that the arcs that make up the layer are coded with street names and address ranges, allowing users to derive coarse locations using address matching methods. The DOT roads layer was compiled at 1:24,000 scale and later updated to match the air photos. Unfortunately, there are no street names or address ranges associated with this layer that would allow more accurate address matching.
Can I do a multi-site search with more than one GIS polygon?	You can not do this type of search through the Find sites by specified criteria search screens but you can do more complex spatial joins across polygons using the buffer tool.
What coordinate system is the information mapped in?	The mapped data in the application is in the New Jersey State Plane Coordinate System (NJSPCS), in units of US Survey Feet, referenced to the North American Datum of 1983 (NAD 83) horizontal geodetic datum.
Can I do multi-media searching?	Yes, you may select more than one program interest at a time by using your keyboard's CTRL key and selecting as many program interests as you wish..
Where do I get information on the mapped data used in i-MapNJ?	This information is available by clicking on the blue *data descriptions* button above the i-MapNJ map tools toolbar. This opens a window that lists all map layers. A brief description of the data is provided when a user clicks on the name of a layer in the data layers list. If a user wants to see further information, they may click on the full metadata button to view FGDC compliant metadata.